Item Unique Identification (IUID)

24 July 2007

The Genesis of IUID

- GAO concerned with DOD management of its inventory of equipment.
- Finding: DOD's inventory exceeded its war reserve or current operating requirements, but lacked key spare parts (particularly aviation spares) due to a lack of adequate accountability over material shipments or effective monitoring of defective spare parts.

GAO-02-477G (Mar 02): Executive Guide, Best Practices in Achieving Consistent, Accurate Physical Counts of Inventory and Related Property

DoD Vision for Item Unique Identification (IUID)

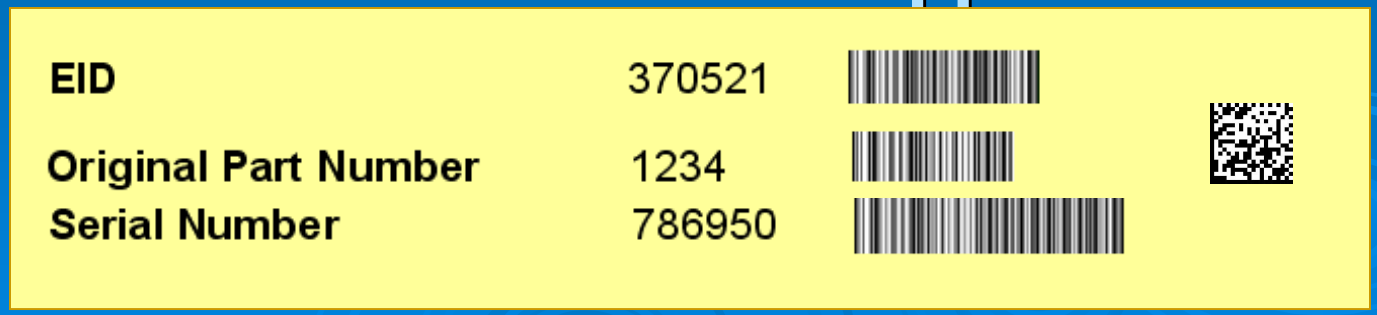
- To implement a policy establishing a ***strategic imperative for uniquely identifying tangible items*** relying to the maximum extent practical on international standards and commercial item markings and while not imposing unique government data requirements.
- Uniquely identified tangible items will facilitate item tracking in DoD business systems and *provide reliable and accurate data* for management, financial, accountability and asset management purposes.

Effective 1 January 04 Mandatory for Solicitations

Unique IDentification (UID) is….

UID is . . .

. . . the set of data for tangible assets that is globally unique and unambiguous, ensures data integrity and data quality throughout life, and supports multi-faceted business applications and



IUID

"Item unique identification is the ability to physically distinguish one item from another... We view a unique item identifier as a set of data for assets that:

- *is globally unique and unambiguous*
- *ensures data integrity and data quality throughout life*
- *supports multi-faceted business applications and users"*

UII: What Is It?

In today's world, many items we buy have identification on them that indicate the manufacturer or distributor of the product and the product type.

Two identical cans of Coke from the same bottling plant will show the same data on the Universal Product Code (UPC)

Some items also have a serial number that differentiates one item from another identical item (e.g., the 24th engine off the assembly line is different from the 1024th)

Serial numbers are unique, but not outside of their enterprise – serial number assigned by XYZ Manufacturer could be the same as one assigned by ABC Company.

By combining enterprise identification, item class and serialization, a globally unique item identifier is created that differentiates each item from other items

Each item has its own globally unique identifier (UII)

UID Constructs

The components that make up the UID are identified in the table below. Each enterprise has two options for creating the UID.

	UID Construct #1	UID Construct #2
Based on current enterprise configurations	If items are serialized within the Enterprise	If items are serialized within Part Number
UID is derived by concatenating the data elements IN ORDER:	Issuing Agency Code* Enterprise ID Serial Number	Issuing Agency Code* Enterprise ID Original Part Number Serial Number
Data Identified on Assets Not Part of the UID (Separate Identifier)	Current Part Number	Current Part Number

*The Issuing Agency Code (IAC) represents the registration authority that issued the enterprise identifier (e.g., Dun and Bradstreet, EAN.UCC). The IAC can be derived from the data qualifier for the enterprise identifier and does not need to be marked on the item.

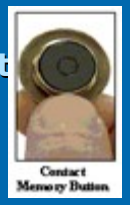
Automatic Identification Technology Suite

Linear Bar Cod

Smart Card/CA

2D Symbol

CMB
Contact Memory Butt



OMC
Optical Memory Ca

RFID - Active
Radio Frequency ID

STS
Satellite-Tracking Syste

RFID- Passive
Radio Frequency ID

TERMINOLOGY

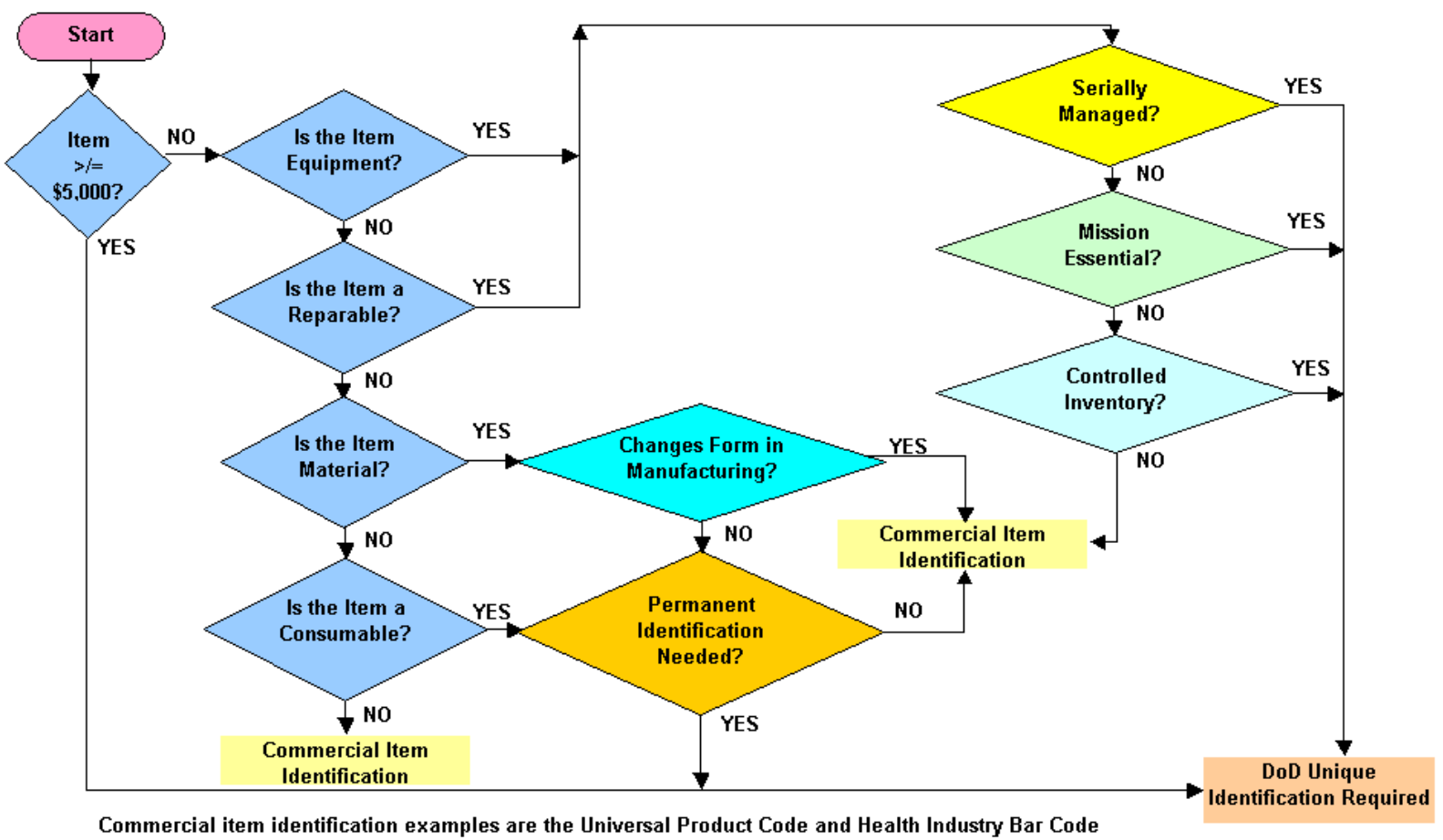
- UID – **U**nique **Id**entification
- IUID – **I**tem **U**nique **Id**entification
- UII – **U**nique **I**tem **I**dentifier
- RFID – **R**adio **F**requency **Id**entification

Items Requiring UIIs or Equivalents

- Acquisition cost is *$5,000 or more*
- *DoD serially managed*, *mission essential* or *controlled inventory* *piece of equipment* or a *reparable item*, or a *consumable item* or *material where permanent identification is required*

Require the UID

Which Items Require a Unique Identifier

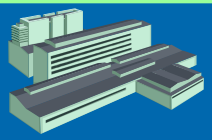


Valuation of UID CLINs

Supply Chain

Items Qualifying for UID

UII ** Deliverables



Item Markings

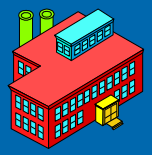
EI 194532636
PN 200H0028
SN 003896*

Delivery to Govt

End Item

UN194532636200H0028003896

CLIN Valuation



Item Markings

EI 040535536
PN 210H0611
SN 006392*

Delivery to Govt

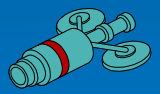
Spares

UN040535536210H0611006392

CLIN Valuation if delivered separately

Item Markings

EI 080907280
PN 216H1439
SN 020890*



Delivery to Govt

Spares

UN080907280216H1439020890

CLIN Valuation if delivered separately

Item Markings

EI 083949107
PN 218H2861
SN 105742*

Delivery to Govt

Spares

UN083949107218H28611057

CLIN Valuation if delivered separately

UID = Unique Identifier; EI = Enterprise Identifier; S = Serialized within the part number
PN = Part Number; SN = Serial Number using DUNS

**UN = Issuing Agency Code for DUNS

Unique Item Identifier (UII) is....

UII is . . .

. . . the set of data for tangible assets that is globally unique and unambiguous, ensures data integrity and data quality throughout life, and supports multi-faceted business applications and

EID	**(12V)194532636**
Orig. Part No.	**(1P)1234**
Serial No.	**(S)786950**

What you see:

- Can contain 100 times the data as the same space in a ba
- Can be read omni-directionally
- Can be damaged but still return accurate data
- Can be scaled up or down to fit within available marking s

What the Reader see

[)>[RS]12[GS]MFR 0CVA5[GS]SER 786950
[RS][EOT]

Defining the Scope of a UII

A UII Is	A UII Is Not
✓ A Data Element ✓ A Unique Identifier for an Item ✓ Globally Unique ✓ Unambiguous ✓ Permanent ✓ Created by Concatenating Specific Data Elements ✓ The enabler for business intelligence	✓ A Device for Communicating Data, such as Radio Frequency Identification (RFID) Tags, Contact Memory Buttons, or Linear Bar Codes. ✓ A Replacement for the National Stock Number ✓ Intelligent Data that Yields Information About the Item ✓ Transferable from one item to another

Solicitation Prep/Contract Award

- The IUID requirement for part marking may be flowed down to suppliers
- Assigning final valuation usually occurs at the level of the prime contract.
- If IUID is required on a new contract, major modification, or reprocurement of equipment (such as spare parts), the RFP must include:
  - DFARS clause 252.211-7003, Item Identification and Valuation
  - MIL-STD-130 (cited in contract Schedule)

Create and Generate the UII

The components that make up the UII are identified in the table below. Each enterprise has two options for creating the UII

	UII Construct #1	UII Construct #2	
Based on current enterprise configurations	If items are serialized within the Enterprise	If items are serialized within Part, Lot or Batch Number	
UII is derived by concatenating the data elements IN ORDER:	Issuing Agency Code* Enterprise ID Serial Number	Issuing Agency Code* Enterprise ID	
		Original Part # Serial Number	Lot or Batch # Serial Number
Data Identified on Assets Not Part of the UII (Separate Identifier)	Current Part Number**	Current Part Number**	

*The Issuing Agency Code (IAC) represents the registration authority that issued the enterprise identifier (e.g., Dun and Bradstreet, EAN.UCC). The IAC can be derived from the data qualifier for the enterprise identifier and does not need to be marked on the item.

**In instances where the original part number changes with new configurations (also known as part number roll), the current part number may be included on the item as a separate data element for traceability purposes.

Use of Commercial Identifiers

- Commercial identifiers can be considered for use as a DoD IUID equivalent if it meets these criteria:
  - Must contain an enterprise identifier
  - Must uniquely identify an individual item within an enterprise identifier, product or part number
  - Must have an existing Data Identifier (DI) or Application Identifier (AI) listed in ANSI MH10.8.2, Data Identifier and Application Identifier Standard

- Some examples of commercial unique identifiers meeting these criteria are:
  - ISO Vehicle Identification Number (VIN) for vehicles
  - Global Individual Asset Identifier (GIAI) for serially-managed assets
  - Global Returnable Asset Identifier (GRAI) for returnable assets
  - Electronic Serial Number (ESN) for cellular telephones only.

- Commercial identifiers must be approved by the UID Program Office in order to be accepted as IUID Equivalents

Placement of the UII

Data elements for unique identification will be placed on qualifying items in accordance with the standard practice of MIL-STD-130, *Identification Marking of U.S. Military Property*. (Note: current version is “M”)

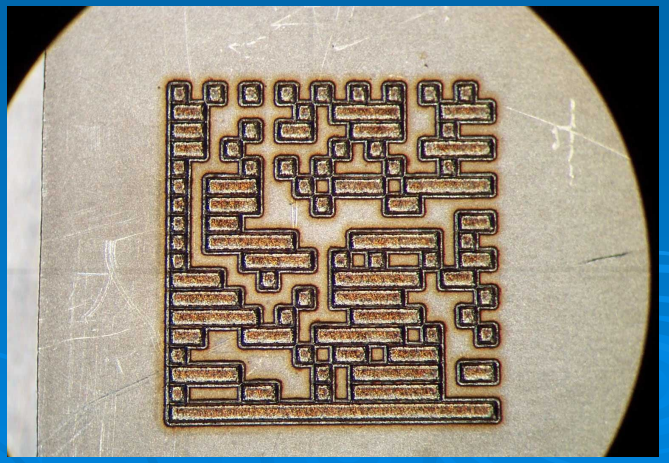
Once delivered, the UII remains the same for the life of the item. UIIs cannot be reused, even if the item is destroyed.

The Direct Part Marking Methods

Dot Peen

Electro Chemi Etch

Ink Jet



Laser

Source: Rolls-Royce, Nat Russhard

IUID Data Capture for New Items via WAWF